

## **Legal Matters Relating to the “Settlement” of “Outposts” on the Moon**

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### **Abstract\***

When Neil Armstrong landed on the moon in 1967 & uttered the immortal words, “one small step for man one giant leap for mankind,” the moon in subsequent years has remained a source of fascination in the White House, as well as an inspiration for many to harbour dreams of creating a permanent extended human presence in space, the moon and mars.

George W Bush earlier this year announced a new America Space Policy announcing in one of his three goals: to return to the moon by 2020, as a launching point for missions beyond.

The implications to this endeavour would involve answering some of the following questions; territorial sovereignty & jurisdiction upon establishing a presence on the moon; private and state ownership rights upon exploitation and moveable property rights; the principle of free access upon utilising the moon’s resources in relation to the launching point”; the meaning of ‘national activities’ as well as instant customary law in relation to the principle of common heritage of mankind and private property rights. Thus this paper seeks to analyse the legal parameters in space law and international law upon establishing an outpost on the moon.

### **Introduction**

In this paper I shall begin by focusing briefly on the historical background, to the present day, of missions to the moon, subsequently analysing current space policy in

the USA and how Europe will participate and co-operate in this policy. This will involve assessing the adequacy of International space law upon implementation of this policy, critically assessing the current legal regime, future changes, in light of political feasibility, that could be made.

### **History: The Missions**

The first manned mission to the moon was conducted by the USA in 1969 which was instigated by President John F Kennedy’s address to Rice University on September 12th 1962. Apollo 11 was launched from Cape Kennedy on July 16th 1969, where Neil Armstrong and Buzz Aldrin were the first astronauts to step on the moon, July 20th 1969, as well as the first to return samples from another planetary body. The Apollo Missions lasted until Apollo 17 in 1972.

The first moon probe came from the Soviet Union, known as the Luna missions and lasted until 1976 Luna 24. The US launched Clementine Orbiter, eight years later which mapped the surface of the moon subsequently allowing for the first topographic of the moon to be generated.

In 1988 the Lunar Prospector was launched. Its primary mission was dedicated to globally “Prospecting” the lunar crust and atmosphere for potential resources, including minerals, water ice and certain gases, Map the Moon’s gravitational and magnetic fields, and learn more about the size and content of the Moon’s core.

Fifteen years later the European Space Agency launches SMART 1, which stands for Small Missions for Advanced Research and

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Technology. It is the first European lunar probe, in which the Swedish Space Corporation were contracted, at a value of €33 million to build, as well as working in cooperation with other European Member States; Finland, Germany, Italy, UK, Austria & Switzerland.

SMART-1 will test spacecraft equipment and instruments, navigation system and a space communication technique, as well as conducting, upon its scheduled arrival, January 2005, a thorough scientific study of the moon, by searching for water on the lunar surface. This would be helpful towards the future, of creating any permanent settlements on the moon. In 2008 Japan also have plans to launch a lunar probe, Selene. The results from all recent and future missions will be collected and put together through the International Lunar Exploration Working Group

### **Space Policy**

In 1986 the National Commission on Space (NCS), appointed by Ronald Regan in 1985 by mandate of the congress, published a report entitled "Pioneering the Space Frontier" which gave a blueprint for the next fifty years in space. NCS essentially called upon the USA to support a moon/mars endeavour. Three years later in 1989 July 20th, coincidentally marking the anniversary of the first lunar landings, President George H W Bush announced plans for Space Exploration Initiative (SEI) in the direction, however, of a manned mission to Mars. A NASA study was initiated to achieve the President's goals. Ironically in 1996 Vice – President Al Gore announced ambitious plans to replace the space shuttle vehicle with X-33. The expenditure in both instances was so great that the ideas never left the drawing board and remained another improbable dream. Eight years later, one sees the return to the fascination of moon & mars by the son of the above President Bush; George W Bush. Thus the Moon has become a priority almost to the same degree as when John F Kennedy gave his

moon speech in 1962.

### **The Bush Vision**

Earlier this year President Bush announced the new America Space Policy that is aimed towards the moon and mars. The following goals were set forth:

1. Implement a sustained and affordable human and robotic program to explore the solar system and beyond;
2. Extend human presence across the solar system, starting with a human return to the Moon by the year 2020, in preparation for human exploration of Mars and other destinations;
3. Develop the innovative technologies, knowledge, and infrastructures both to explore and to support decisions about the destinations for human exploration; and
4. Promote international and commercial participation in exploration to further U.S. scientific, security, and economic interests.

Also mentioned, although did not form part of the goals was the possibility of utilising the rich mineral resources on the moon in the Presidential speech.

The President has charged a Commission to complete a study of implementing the space policy. Over the last months the Commission has taken various testimonies, one of these was from the Swedish Space Corporation, which was extremely important for USA to understand of how a sophisticated probe was built fairly cheaply and in short space of time. Marcia Smith, a space policy senior analyst at the Congressional Research Centre in Washington, also gave her testimony regarding possible co-operation between Europe, Russia and India in the space policy. She concluded Cooperation will be dependent upon the experience of space faring nations and where their area of expertise lie.

The Presidential Commission has compiled its report (available at <http://www.moontomars.org>) and has come to some of the following conclusions in how to implement and sustain the space policy throughout successive presidencies. It is envisaged that the Bush Vision should take national priority thus a permanent Space Exploration Steering Council ought to be established and reportable to the President. In this regard the Steering Council must be representative of all federal agencies to manage the policy agenda and coordinate work by its agencies.

NASA's relationship to the private sector came under scrutiny. The Commission recommended that NASA's objective must be to implement the national exploration vision and should be limited in scope towards allowing private industry as having the primary role in providing services to NASA. In this respect various organisational changes need to be implemented within NASA to successfully develop enabling technologies and to stimulate world innovation/invention through engaging the scientific community. Thus it will be congresses role to develop the commercial aspects of the national agenda through offering incentives for entrepreneurial investment. The Commission specified that international talents and technologies will be of significant value,' thus NASA should 'pursue international partnerships based upon an architecture that would encourage global investment in support of the vision.'

To realise this policy one must question whether the current legal framework effective enough, in the event of an international settlement is set up on the moon, to determine private ownership rights, liability, jurisdiction, and environmental aspects upon mining on the moon?

### **Settlements**

Although before answering such questions, what is an 'outpost'? For the purposes of this

paper outpost is taken to mean human settlements, commercial and scientific endeavours. Where on the moon could such a LUNAR base be located? The South Pole at the Aiken Basin has been suggested, as solar panels could be placed at this peak, providing continuous power. Lunar Habitats could be buried under the Lunar Regolith protecting them from the temperatures and radiation.

There are many special properties on the moon that could be useful in sustaining a presence on the moon and even beyond. Water on the moon can be converted into hydrogen and used to fuel missions throughout the solar system. Oxygen can be transformed into breathable air as well as used as fuel alongside hydrogen. There are seven basic construction materials, (concrete, fibreglass etc) on the moon which is significant step for self sufficiency and independence from Earth. Upon using the moon as a spaceport laboratories could be set up in the event samples are brought back from other planets, so as not to contaminate Earth<sup>16</sup>.

The richest mineral on the moon and is perhaps the rationale for returning to the moon is Helium 3 isotope. It does not exist on Earth, as it is deposited by the solar wind. It is the cleanest form of energy and instead of using traditional nuclear fusion; nuclear fusion with helium 3 would be used. Various concepts have been proposed in how to excavate and process helium 3. It is likely these operations will be automated and teleoperated<sup>16</sup>. Mining the resources on the moon is very attractive commercially because of the significant deposits of oxygen, silicon, aluminium, iron, calcium, magnesium and many others in trace amounts, that can be used as thermal or electrical sources; or in addition to using the lunar resources, asteroid resources could also be used as a fuel source for a sophisticated system, that would 'collect solar energy in space, convert it to electricity and transmit it to Earth via microwave beams'. This is known as the solar-powered satellite electricity

generation system (SPS<sup>\*</sup>), and has a huge potential to replace current method of generating electricity thus significantly reducing harmful emissions into the Earth's atmosphere.

### **International Space Law**

The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, referred to as the Outer Space Treaty, (OST) entered into force 10<sup>th</sup> October 1967 with 98 ratifications and 27 signatories to the Treaty<sup>‡</sup>. The OST is based upon the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, which the General Assembly adopted in its resolution 1962 (XVIII) in 1963. The urgency of concluding such a treaty became apparent through the desire for sending astronauts to land on the moon.

The Moon Agreement was opened for signature on 18<sup>th</sup> December 1979 and was subsequently ratified by 10 States, and 5 States are only signatories as of the 1<sup>st</sup> January 2004; Australia, Austria, Chile, Kazakhstan, Mexico, Morocco, Netherlands, Pakistan, Poland, Uruguay ratified the Moon Treaty whilst France, Guatemala, India, Philippines & Romania are only signatories.

### **Background**

The Moon Treaty began from the Argentina initiative who submitted a proposal, which was a draft to Principles Governing Activities in the use of the Natural Resources of the Moon and other Celestial Bodies to the Legal Sub committee, whereby the first article stipulated

that "the natural resources of the moon and other celestial bodies shall be the common heritage of mankind". This was the first time common heritage of mankind principle was used to describe the moon and other celestial bodies.

The General Assembly, subsequently adopted Resolution 2779 (XXVI), upon the Soviet's initiative, that as a matter of priority the Legal sub-committee considers the question of the Moon Treaty. The Soviet Proposal followed in which they excluded 'common heritage' and instead drafted that 'space can be an international area for 'common use', and overall their draft only applied to the moon and not to other celestial bodies. The Soviets also did not deal with the issue of resources. Although the Soviet draft was discussed in preference over the Argentina proposal in the Legal Sub-Committee and the Working Group set up by the Committee, as it was subject to the General Assembly Resolution.

The USA submitted 16 Proposals and another nine were submitted from other countries. However there were disagreements to the provisions of the treaty in particular of how to deal with the resources issue and this delayed the Treaty for several years. There is little in the way of official records in how a final agreement was reached except one could surmise that a frank statement from the chairman of the Outer Space Committee, 22<sup>nd</sup> session June 1979 led to, 'stronger political will to achieve the necessary compromises.'

### **The Outer Space Treaty and the Moon Treaty**

None of the major space faring nations including the United States have ratified the Moon Treaty thus The Outer Space Treaty would regulate any activities relating to exploitation of resources on the moon or other celestial bodies.

Article two of the Outer Space Treaty specifies that the outer space, including the

\* See An Evolutionary Path to SPS Geoffrey A. Landis; Nyma, Inc. NASA Lewis Research Center mailstop 302-1 Cleveland, OH 44135 originally published in Space Power, Vol. 9, No. 4, pp. 365-371 (1990); [www.islandone.org/Settlements/EvolutionaryPathSPS.html](http://www.islandone.org/Settlements/EvolutionaryPathSPS.html)

‡ As of 1st January 2004

moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of occupation or by any other means. Thus the accepted view regarding the legal status of outer space is that space is *res communis*, which means space is the 'property of all' as in the high seas. However this Article must be read in light of Article 1 paragraphs 2 & 3<sup>±</sup> in the Outer Space Treaty, and sets the fundamental right of equality between states to freely access, explore, and exploit outer space, including the moon and celestial bodies as long as it is done within conformity with international law<sup>§</sup> and '...for the benefit and interests of all countries...'; Art IV that activities must be done exclusively for peaceful purposes; and that States bear international responsibility regarding national activities in space under Article VI, as well as bearing state liability for any damage caused under Article VIII.

### **Private Property Rights**

The Outer Space Treaty refers to 'national appropriation' and 'national' space activities' however there has been much debate as whether this includes private property rights. To contrast The Moon Treaty considers the moon and other celestial bodies as the common heritage of mankind. Thus the moon and celestial bodies are *res extra commercium*. According to Article 966 of the Greek Civil Code, *res extra commercium* is defined as [areas or materials] "those that belong to all; those that are of common use; and those destined for serving public municipal, communal or religious purposes". Thus territorially the moon and other celestial bodies are not subject to national appropriation<sup>2</sup> and their resources are deemed

<sup>±</sup> Paragraph 2 '...shall be free for the exploration and use by all States...' Paragraph 3 '... freedom of scientific investigation in outer space...'

<sup>§</sup> including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding see Article 3 of the OST

the property of mankind.

This must be read in light of Article 11 (3) of the Moon Treaty as some states have interpreted the phrase 'in place' to allow private property rights. Anything that is moveable one can make a claim for such an item for example extracting helium 3 isotope and bringing it back to earth. However the Moon Treaty is poorly ratified and space-faring nations would be bound by the Outer Space Treaty.

Thus one must analyse basic land law concepts<sup>¶</sup> to answer the question whether private property rights are permissible under the Outer Space Treaty. If one wanted to acquire real estate on the moon there are 2 concurrent elements that must be established, *Corpus Possidendi*, 'factual possession' and *Animus Possidendi*, 'intention to possess'. One concept is insufficient without the other, as both the intention to take the thing and some act of a physical nature or control, which must be a single and conclusive act of possession, must occur in order to give effect to *animus possidendi*.

In this respect to answer the question of moveable property rights it could be argued that the two concurrent concepts would be present thus title to ownership in theory could be proclaimed. Applying these principles in international law to appropriate or acquire territory, through occupation\* the land must be *terra nullius* or *res nullis* land that is legally susceptible to acquisition that is not yet under a sovereign entity. The territory<sup>7</sup> can be new land which has never belonged to any sovereign State.

To establish what constitutes occupation one can turn to the Eastern Greenland case<sup>¶¶</sup>; where a continued display of authority in this

<sup>¶</sup> See Maudsley & Burn's Land Law 7<sup>th</sup> ed Butterworths pg 186 -194 or JG Riddall Land Law 6<sup>th</sup> ed Butterworths pg 470 -472

\* there are four other modes of acquisition: a) prescription; b) accretion; c) cession; and d) conquest, in this respect 'occupation' is the most relevant concept to this paper.

<sup>¶¶</sup> Denmark v Norway (1933) PCIJ Rep Series A/B No 53

respect the intention and will to act as a sovereign, some actual exercise or display of such activity is essential to affect *animus occupandi*. Thus it must be a State activity, performed in the service of a State, or it must be acknowledged by a State after its performance; unless the State invests a private individual or corporation with the public power of acquisition and administration. It is possible that appropriation can exist without sovereignty, but its survival is dependent upon endorsement from sovereign entity. Thus any State endorsement and display of control as specified in the *Island of Palmas Case*<sup>±±</sup> ‘...the continuous and peaceful display of territory sovereignty...’ would be interpreted to mean ‘occupation’ as well as ‘national appropriation’ and this is prohibited in Article II of the Outer Space Treaty.

According to Article I of the Outer Space Treaty, Outer space, the moon and other celestial bodies are considered a province of mankind and therefore recognised under international law as *res communis*, as opposed to *res nullius*, land that is land not capable of being placed under the sovereignty of any State. Also Article VI refers to ‘national activities’ and this includes all activities irrespective of whether they are conducted by governmental or non governmental entities. Thus this Article is applicable to the public as well as non governmental entities.

### **The Moon Treaty; Problematic Areas**

Article 11 is cited as the most problematic in the Moon Treaty, as it does not fit with the political objectives of States to this present day. The common heritage of mankind principle is seen as a hindrance to the commercial exploitation of the lunar resources; in particular to establishing an international régime, "including appropriate procedures, to govern the exploitation of the natural resources of the Moon as its

exploitation is about to become feasible". The question is can this be entirely anticipated? What if the governance comes too late and a dispute arises between competitors? However Dr. von Dunk in his article ‘Dark Side of the Moon; The status of the Moon; Public Concepts’<sup>\*</sup> states that the Moon Treaty creates a moratorium on the use of lunar resources pending the establishment of an international regime. The issue for contention is that one of the main purposes of the international régime, is “an equitable sharing by all State Parties in the benefits derived from those resources, whereby the interest and needs of the developing countries, as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the Moon, shall be given special consideration”.

The nature of commercial activities is to make a profit however this needs to be resolved with the benefit sharing principle. One such way would be follow Dr von der Dunks<sup>†</sup> suggestion that the applicability of the Treaty does not include the entire nations of this world but rather those that are party to the Treaty. Wassenbergh<sup>‡</sup> has made another suggestion through ‘cross border cooperative arrangements.’ The benefit principle is still regarded as a Treaty burden particularly for private enterprises, and still requires lengthy debate as to whether nations are willing to accept in whole or part of this burden. In the meantime it could be argued that in the absence of consensus on these very issues, it is impeding upon the progress of private space activities and to some respects states that have not enacted national licensing laws, private activities have the potential to operate in a

<sup>±±</sup> *The Netherlands v USA* (1928) 2 RIAA 829

<sup>\*</sup> 40th Colloquium on the Law of Outer Space 119, 121 (1998). Professor Wassenberg shares the same view see *The International Regulation of an Equitable Utilization of Natural Outer Space Resources* 39<sup>th</sup> Colloquium on the Law of Outer Space 138, 140 (1997)

<sup>†</sup> ‘Dark Side of the Moon; The status of the Moon; Public Concepts’ 40th Colloquium on the Law of Outer Space 119, 121 (1998)

<sup>‡</sup> Wassenberg, *supr* note 5 at 140

legal vacuum.

### **Interpreting Article 11 of the Moon Treaty**

'The common heritage of all mankind'<sup>5 6</sup> is a phrase which means all the resources of space belong to all nations and the use or extraction by one nation would not be in conformity with this treaty. An international organization should be established to redistribute the wealth upon returning from the moon and Outer Space resulted in the U.S. and Soviet Union/Russia not signing the Moon Agreement. No effort has been made to discuss whether an international regime should be initiated. For example Article 18 of the Moon Treaty states that ten years after the treaty has entered into force the Treaty should be subject for review and included in the provisional agenda of General Assembly of the United Nations. The date passed on the 11<sup>th</sup> July 1994 with no desire by state parties to begin negotiations on establishing an international regime. One can find a similar international regimes, like that of ICAO and ITU to use as a model in establishing such an organisation, in this respect one can find the tools to draft and implement a constitution establishing an international committee governing the exploitation of resources on the moon including other celestial bodies.

There are certain advantages to remaining within the legal framework of the Moon Agreement; for example Australia<sup>17</sup> and all other state parties to the Treaty would have basic exploitative rights as opposed to non state parties. Spare faring nations like the USA will not be able to participate in creating an organisation governing exploitation. They will have no say in setting the duties and powers of the organisation nor the benefit sharing principle; but the USA is not bound by the Moon Agreement, they have not ratified it nor are they a signatory thus would the USA be bound by the decisions of the proposed international committee?

### **('Instant') International Customary Law; Common Heritage of Mankind and Private Property Rights**

The Statute of International Court of Justice (ICJ), Article 38, defines the sources of law, one of which is based on 'international custom' which is 'evidence of a general practice accepted as law'. One can identify two basic constitutive elements to establishing a customary rule the material or objective facts i.e. determining the actual behaviour of states (corpus), and the psychological or subjective element (animus). Thus Bin Cheng<sup>§8</sup> explains that the 'corpus' is the existence of the usage embodying the rule of conduct and the 'animus' is the binding nature of the rule embodied in the usage, (opinio juris).

The material/objective fact looks at the actual practice of states thus the duration, consistency, repetition and the generality of the particular practice by states will take taken into consideration. The Asylum Case ICJ Reports (1950) is the leading decision establishing the basis for continuity and repetition; in this respect the party that relies on the custom must prove that it is a binding custom on the other party, and when the rule is invoked there a constant and uniform usage practiced by the States in question. The usage is an expression of a right in granting the custom to one state and a duty incumbent on the other territorial state. Can one establish a 'constant and uniform usage regarding the common heritage of mankind principle? Or can one substantiate a rule for private property rights that is binding upon parties?

Evidence of general practice can include diplomatic correspondence, policy statements, press releases, the opinions of official legal advisers, official manuals on legal questions, and comments by governments on drafts produced by the International Law Commission, State Legislation, international

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<sup>§</sup> See International Studies in International Space Law Bin Cheng Clarendon Press Oxford 1997 chapter 7 pg 125 to 150

and national judicial decisions; however the value of the sources depends on the sources<sup>¶</sup>. If one follows the view that national activities in the Outer Space Treaty does not include private space activities and in particular regard the selling of 'real estate' on the moon by the Lunar Embassy could be evidence of a rule developing that is allowing for private property rights as well as any creation of settlements on the moon.

Bin Cheng<sup>8</sup> suggests then that Article 38 (1) (b) ought to have said was 'international custom as evidenced by a general practice accepted as law,' maintaining that, 'it is not the custom... that is evidence of the general practice, but rather the general practice accepted as law that provides evidence of the customary rule.' The role of usage is merely evidential, in which Cheng<sup>8</sup> stipulates, that on the one hand it provides the evidence of the contents of the rule and on the other *opinio juris* of the States concerned. Accordingly usage does not require a long duration or repeated practice providing that *opinio juris* is present and clearly established thus there is only one constitutive element, the *opinio juris*.

Bin Cheng<sup>8</sup> is essentially arguing that 'instant' customary law is possible. A single act would then create a custom, but there are critics who hold the view that it is simply not possible to prove other than by establishing usage that is over of period of time. According to this view some proponents argue that 'common heritage of mankind' for example, in the Moon Treaty is a rule of instant customary law but others argue it is not possible because there is not enough evidence to establish usage or practice constitutive and indispensable elements to establishing a customary rule; and there is no evidence to find uniformity between states regarding their behaviour before a rule can become a custom.

<sup>¶</sup> See Brownlie Principles of International Law Oxford Sixth Ed.

For example in the Anglo-Norwegian Fisheries Case in which the method for measuring the breadth of the territorial sea was rejected as custom because the actual practice did not justify the creation of such a custom.

In the Nicaragua v United States Case it was established that 'absolute rigorous conformity' was not necessary and any inconsistencies with the rule amount to a breach of that rule and not recognition of a new rule. In the absence of manned missions for the last thirty or so years to the moon and exploitative endeavours what evidence can be adduced to infer a practice of the common heritage of mankind? Could the single act of selling a piece of the moon create a custom?

The binding force of all rules relating to international law, following Cheng<sup>8</sup>, ultimately rests on their consent, recognition, acquiescence or the principle of estoppel. The Lotus Case on the part of France deduced tacit consent to a custom because of the absence of previous criminal proceedings with other states in similar situations. The court rejected this stating that if states were conscious of a duty to abstain then an international custom could be present...The North Sea Continental Shelf Cases exemplifies the issue of recognition referring to the states practice, '...occurring in such a way to show general recognition that a rule of law or legal obligation is involved.'

Actual protests would break the legitimising process the binding force of the rule. A state then opposing the custom from its inception would not be bound to the rule\*\* but if the custom was well established and a state was seeking dissent proving adverse behaviour and acquiescence of other states would be difficult simply because states may not protest for political and diplomatic reasons.

\*\* Anglo-Norwegian Fisheries Case ICJ Reports 1951 p 1168 ILR, p 86, see Malcolm Shaw International Law Cambridge 4<sup>th</sup> ed



In this respect one could argue that the common heritage of mankind remains a disputed concept, in particular for major space powers through continual dissent or lack of recognition that there is a legal obligation that they are bound to. Thus one can argue this position has paved the way for companies like the Lunar Embassy to sell pieces of the moon, and the lack of protest from States is initiating a custom, in particular if no adverse behaviour can be substantiated from the rule. In a Statement by the Board of Directors of the International Institute of Space Law (IISL) on Claims to Property Rights regarding the Moon and Other Celestial Bodies, raised through the appearance of deeds to lunar property and with the opportunity of misleading individuals, made the following opinion *'...according to international law, and pursuant to Article VI, the activities of non-governmental entities (private parties) are national activities. The prohibition of national appropriation by Article II thus includes appropriation by non-governmental entities (i.e. private entities whether individuals or corporations) since that would be a national activity. The prohibition of national appropriation also precludes the application of any national legislation on a territorial basis to validate a 'private claim'. Hence, it is not sufficient for sellers of lunar deeds to point to national law, or the silence of national authorities, to justify their ostensible claims. The sellers of such deeds are unable to acquire legal title to their claims. Accordingly, the deeds they sell have no legal value or significance, and convey no recognized rights whatsoever.'*<sup>44</sup> This interpretation of private property rights rules out any existence of such a custom through established principles in international law which arguably are customs in themselves. Also the Statement stipulates that there is a

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[http://www.jafastro.iisl.com/additional%20pages/Statement\\_Moon.htm](http://www.jafastro.iisl.com/additional%20pages/Statement_Moon.htm)

duty incumbent upon States, in order to fulfil their obligations under Article II and VI of the Outer Space Treaty, in their legal systems to ensure such transactions have no legal validity.

### New Delhi Conference the Space Law Committee 2002

Proposed amendments to the Moon Agreement have been suggested; however state parties to the Moon Agreement would have to be included in such discussions within COPUOS. In 2002 at the New Delhi Conference the Space Law Committee of the International Law Association<sup>15</sup> reviewed four of the five space law treaties in view of commercial Activities. Their role was to 'elaborate concrete proposals, regarding possible amendments of, as well as possible supplements to the UN space law instruments...' In revising Article 11 the first revision to be discussed was the common heritage of mankind principle. Province or 'common concern' was debated as possible replacements; 'common concern', citing the ozone layer as an example, was preferred over 'province' as it was seen as still a vague concept.

Art 11.2 revision involved an additional paragraph to the non appropriation principle by not precluding any commercial exploitation or use, with the proviso that such exploitation is done in conformity with this Agreement and any other regime governing commercial exploitation established under the basis of this Agreement, remembering Article VI of the Outer Space Treaty regarding the meaning of national activities.

Art 11.3 revision recommended the deletion of 'in place' because of the possibility of gaining moveable property rights, where the mineral(s) could be subject to a claim to ownership, whether such a claim would be successful in light of the 'international community' is another matter.

Art 11.5 revision was analysing an 'International regime' alongside a 'National law' regime. Ideally a national regime should

not just be exclusive to the Moon Agreement, in licensing of commercial exploitation, as it also belongs in the Outer Space Treaty for licensing space activities in general. Thus an International regime is incompatible with imposing a national regime as one could strongly argue that it would lead to incoherency (even with the suggested guidelines), as each country may implement their own interpretation, subsequently making it difficult to harmonise the different national regimes. Also questions arise as to those countries who already have national law, are they then required introduce a new separate law for licensing commercial activities on the moon? And how would every individual national state implement an international licensing/registration regime, when one could argue that for clarity this should be done under an international forum through a competent authority.

A procedure to guarantee rights and interests of state parties and non governmental entities are respected was suggested as a revision, although this is vague as what kind of procedure are they referring to? Is this relevant as long as they have a license and register the object is the extra procedural burden needed? Also could their rights and interests include using a particular mineral exclusively?

Ideally a private entity wishing to conduct a space activity should first seek a national license from the appropriate authorities for the purposes of state responsibility and liability. Once that is granted it is subject to a further restriction; if that activity includes exploitation of the lunar resources, then an international license is also needed from the competent authority dealing with the issue to grant the exploitation. In addition they must also register the object with the competent body. One should at least provide for compulsory insurance to undertake such activities.<sup>15</sup>

Also the revision that stipulates protecting the Moon's Environment is it simply enough to say that? Issues of contention could be

space debris and dust clouds from mining. Thus the use of 'substantially' at risk does this mean then some risk permitted? Perhaps there should be a separate provision regarding the extent of the exploitation.

Article 11.7 revision looks at the setting up of an international regime. One could detail the selection, voting, competencies and responsibilities of the organization, drawing upon ITU and ICAO as a model to initiate the foundations of such regime. It is possible that the Inter Governmental Agreement on International Space Station (IGA ISS) could serve as a framework for determining or initiating negotiations on issues such as patents, liability, as well as registration of space objects (article 5), notwithstanding Art 12 Moon Agreement.

### Conclusion

There is an underlying protectionist attitude or motivation towards space law and this is, whilst has the best intentions is stifling the development of space law. A clear consensus needs to be made regarding the revisions that been tirelessly discussed over the years either the outer Space Treaty or the Moon Agreement is amended, separate annexes are attached, a new treaty is written or rather a single space law instrument is negotiated. The fear of losing valuable provisions must be put aside as the current regime would stay in place until the consensus on the changes have been made, and it is possible a consensus may not be reached in which one would find themselves in the situation of the Moon Agreement where discussions reached a point where they were almost abandoned.

A change in political will is needed to quote the chairman of the Outer Space Committee, 22nd session June 1979<sup>8</sup> in order to bring space law in line with technological development. The feasibility of such a change in motivation is remote and can take many years but as we nearer the technological possibilities of realising the vision towards the

moon one can hope the change are made before exploitation begins. In the words of Chief Justice Earl Warren in an address delivered in February 1963 at the Georgia Institute of Technology, *"there is no reason why we cannot make legal research accomplish the same function as scientific research. This means that the law should no longer wait to be stirred by crises. The law should anticipate changing conditions. It should anticipate impending crisis. It should in other words look to the future, and as the future beckons humans into outer space, we must look there to for the rule of law."*<sup>14</sup>

### **Recommendations**

Thus in light of future objectives towards the moon and as private interests gather speed this paper calls for a comprehensive Treaty regarding Space Mining For the Commercial Exploitation of Asteroids (including the Creation of Outposts: Settlements and Bases upon) the Moon and Other Celestial Bodies. The present debates should not be limited to property rights and should go beyond the provisions set out in Art 11 (5) of the Moon Agreement. The proposed Treaty should set out exactly how the regime could take form and obligations private entities must abide by when following a space activity involving commercial exploitation and or the creation of Outposts on the moon. The ISS as discussed above could serve as a blueprint to determine basic legal concepts. However this is limited to those states participating in the IGA ISS thus the scope would be wider in the proposed treaty in include developing nations. Thus following the Principles Relating to Remote Sensing where it says that 'the sensed state shall have access to them (data) on a non-discriminatory basis and on reasonable cost terms ...taking particularly into account the needs and interests of developing countries,' (Principle XII), could be a step forward in solving the equitable use of lunar resources.

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